UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XA018NM

Site Name: Stony Loam

Precipitation or Climate Zone: 9 to 14 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on nearly level mesas and benches and on nearly level to moderately steep footslopes. Slopes generally are less than 15 percent. Elevation ranges from 7,000 to 8,400 feet above sea level.

Land Form:

1. Mesa
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	7,000	8,400
Slope (percent)	1	<15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Mean annual precipitation varies from 9 to 14 inches. Deviations of 4 inches or more are quite common. Approximately 60 percent of the precipitation is received during the native plant growth period, April through September. During July, August and September 4 to 6 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants. Maximum shrub growth also occurs during this time. Summer precipitation is characterized by brief, localized thunderstorms. Winter moisture usually occurs as snow or light rain.

Mean annual temperature varies from 64 degrees F in July to 21 degrees F in January. The maximum is near 100 degrees F. The minimum is near 40 degrees F. The average last killing frost in the spring is around mid-May. The first killing frost in the fall is late September or early October. The frost-free period is approximately 120 to 140 days, but freezing temperatures have been recorded for every month except July and August. Temperatures are generally conducive for herbaceous plant growth from April through September.

Wind velocities are relatively light most of the year with stronger winds occurring in spring and early summer. These stronger winds, which may exceed 25 miles per hour, increase transpiration rates of plants and rapidly dry the soil surface. Also, small soil particles are often displaced by the stronger winds, which can result in structural damage to native plants, particularly young seedlings.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	**Maximum**
Frost-free period (days):	104	119
Freeze-free period (days):	134	145
Mean annual precipitation (inches):	9	14

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34,6	78.8
October	1.01	1.86	25.3	68.8
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

Climate Stations:

				Period			
Station ID	292241	Location	Cuba, NM	From:	01/01/14	To:	12/31/01
Station ID	293422	Location	Gallup FAA AP, NM	From:	01/01/21	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

Typically, the soils are cobbly or stony throughout the soil profile. Surface textures range from very fine sandy loams to clay loams. Subsoils range from loams to clay loams. The soils are moderately deep to deep and are well drained. Permeability is moderately slow to rapid with a moderate to high water-holding capacity.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Cobbly loam
2. Loam
3. Very fine sandy loam
4. Clay loam

Surface Texture Modifier:

1. Cobble
2. Stone
1.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): 15 to 35
Subsurface Fragments <=3" (%Volume): N/A
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Slow	Rapid
Depth (inches):	20	60
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	7.4	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This is a grassland-shrub site predominantly characterized by perennial, cool-season grasses and shrubs. Very few, if any, trees grow on this site. Forbs are a minor component.
*Gooseberry is restricted to the HV-1 subresource area.

Canopy Cover:	
Trees, shrubs and half-shrubs	20 – 25 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	20
Bare ground	10
Surface gravel	5
Surface cobble and stone	35
Litter (percent)	10
Litter (average depth in cm.)	2

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	150	315	480
Forb	20	42	64
Tree/Shrub/Vine	50	105	160
Lichen			
Moss			
Microbiotic Crusts			
Total	250	525	800

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	PASM MUWR	Western Wheatgrass Spike Muhly	131 – 236	131 – 236
2	BOGR2	Blue Grama	26 – 53	26 – 53
3	PLJA	Galleta	26 – 53	26 – 53
4	HECO26 HENE5	Needleandthread New Mexico Feathergrass	26 – 79	26 – 79
5	ELEL5	Bottlebrush Squirreltail	16 – 42	16 – 42
6	ACHY	Indian Ricegrass	0 – 26	0 – 26
7	BOCU SCSC 2GRAM	Sideoats Grama Little Bluestem Other Grasses	0 – 26	0 – 26

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	OXYTR ERIOG SPHAE 2FP	Locoweed spp. Wildbuckwheat spp. Globemallow spp. Perennial Forbs	16 – 42	16 – 42
9	2FA	Annual Forbs	5 – 16	5 – 16

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ARTR2	Mountain Big Sagebrush	53 – 105	53 – 105
11	ERNAN5 GUSA2	Rubber Rabbitbrush Broom Snakeweed	5 – 16	5 – 16
12	ATCA2 KRLA2	Fourwing Saltbush Winterfat	16 – 26	16 – 26
13	JUMO PIED	Oneseed Juniper Pinyon Pine	0 – 16	0 – 16
14	RIMO2	Gooseberry (currant)*	5 – 16	5 – 16
15	2SD	Other Shrubs	16 – 26	16 – 26

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear include: prairie junegrass, muttongrass, muhly spp., wolftail, penstemon spp., phlox spp., aster spp., fleabane spp., yucca spp., pingue and cactus spp.

Plant Growth Curves

Growth Curve ID **0018NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Perennial cool-season grass-shrubland with very few trees and a minor forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, badger, white-tailed jackrabbit, burrowing owl, prairie rattlesnake and horned lizard.

Seasonally, these sites provide foraging areas for mourning dove and raptors.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Fernando	?
Sedillo	B

Recreational Uses:

This site is suited to hunting, nature observation, picnicking and camping. Its proximity to mountainous and canyon settings enhance the desirability of such activities.

Wood Products:

This site produces no significant wood products in its potential plant community.

Other Products:

Grazing:

Approximately 90 percent of the vegetation produced on this site are suitable for grazing or browsing by domestic livestock and wildlife. Over use of the forage generally is a result of poor livestock distribution, which can be corrected by adequate waterings, salting and cross-fencing. Continuous, yearlong grazing, which allows repetitive grazing of the desirable species, eventually leads to a decrease in these species from the plant community. Such deterioration is indicated by a decrease in western wheatgrass, needlegrasses and fourwing saltbush. Species that increase include blue grama, galleta, threeawn spp., rubber rabbitbrush and big sagebrush. Oneseed juniper may invade this site from adjacent sites if the vigor of the herbaceous species decreases significantly. A planned grazing system with a periodic deferment is best to maintain the desirable balance between plant species and to maintain high productivity.

In addition to domestic livestock, deer, small mammals and birds also use this site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.9 – 5.1
75 – 51	4.9 – 7.6
50 – 26	7.4 – 15.2
25 – 0	15.2+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife
Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	P	P	D	D	D	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites:

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Rio Arriba, Taos**

Latitude:

Longitude:

Township:

Range:

Section:

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description:

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley & Sandoval

Characteristic Soils Are:	
Fernando	Sedillo
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester		Don Sylvester	

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	08/16/02	George Chavez	09/11/02